r ID 86063

86063

51:58 PM

D6014-090

Accept *N900040100* Setup Start *NS1*

ID:

Stop *NS2*

Item Name: ALUMINUM EXTRUSION

Start Date: 20/06/2012 Start Qty: 80.00 *80*

Required Date: 15/08/2012 Req'd Qty: 80.00 *80*

Reference:

Cust Item ID:

Customer:

Run Start *NR1*

Stop *NR2*

Approvals: Process Plan: MLJ Date: 12/06/20 Tooling: Date:

QC: Date: SPC (Y/N): Date:

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D6014	Rev A								
100		0.00							
100	PURCHASING								
Purchasing		0.00							
Purchasing	Memo Issue P/O: 17288 a) Extrude as per Dwg D6014 b) Material: 7075-T73/T73510/T73511 (QQ-A-200/11)Seamless Aluminum Tube c) Minimum ultimate tensile strength = 68 ksi d) Minimum tensile yield strength = 57 ksi Possible Supplier: Aluminum Works Mater								
110	Receive & Inspect for Damage & Mat'l Certs	0.00							
110									
Packaging		0.00							
Packaging	Memo Ensure material certification is attached								

CL 12/06/22 80

12/13/01/3 (93)

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

Work Order ID 86063

June-20-12 12:51:58 PM

86063

Item ID: D6014-090 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: ALUMINUM EXTRUSION

Start Date: 20/06/2012 **Start Qty:** 80.00 *80*

Required Date: 15/08/2012 **Req'd Qty:** 80.00 *80*

Reference:

Cust Item ID:

Customer:

Run Start *NR1*

Stop *NR2*

Approvals: **Process Plan:** **Date:** **Tooling:** **Date:**

QC: **Date:** **SPC (Y/N):** **Date:**

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC6- Inspect dimensions to drawing	0.00							
120 QC Quality Control	**Memo** Ensure Material certification comply to Dwg D6006	0.00							
150	Identify as per dwg & Stock Location: 46	0.00							
150 Packaging Packaging	**Memo**	0.00							
160	QC21- Final Inspection - Work Order Release	0.00							
160 QC Quality Control	**Memo**	0.00							

DAS 16 8-89 13/1/23

x93

93 13-2-5

MLS 13-02-07

MF 13-2-07

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

Picklist Print

June-20-12 12:52:02 PM

Work Order ID: 86063

86063

Parent Item: D6014-090

D6014-090

Parent Item Name: ALUMINUM EXTRUSION

Start Date: 20/06/2012 **Required Date:** 15/08/2012

Start Qty: 80.00 **Required Qty:** 80.00

Comments: IPP A05.08.31New issueKJ/JLM remove handfinishing and qc3 IPP Rev:B 10.06.07

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6014-090P		Purchased	No			110	Each	0.0000	1	80			
D6014-090P									**				
ALUMINUM EXTRUSION													

13/01/13 93

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

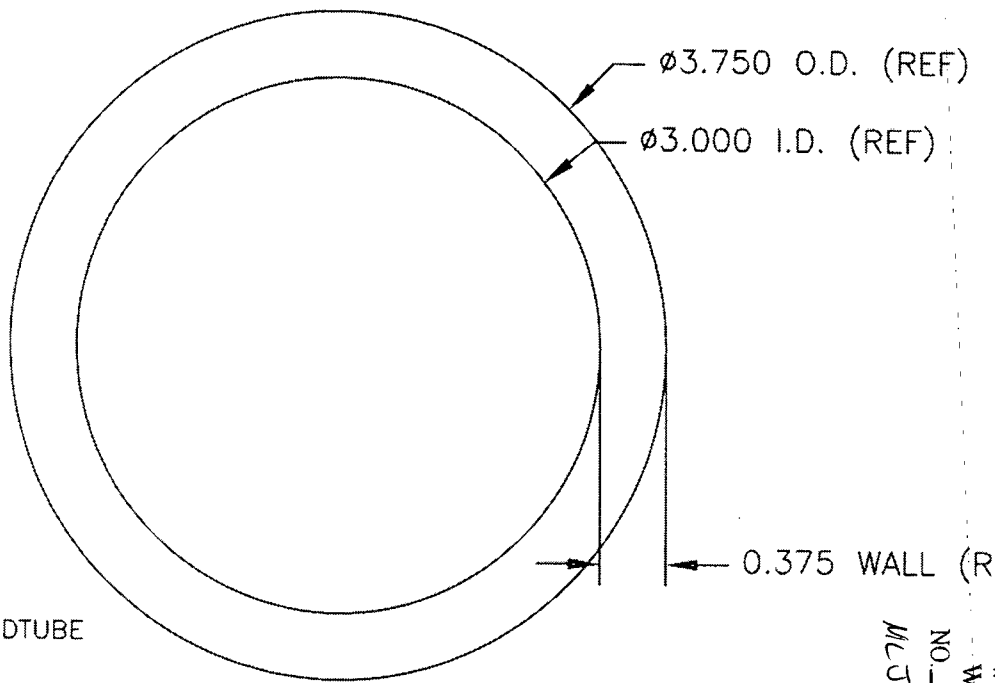
NOTE: Date & initial all entries

DESIGN	DRAWN BY	DART AEROSPACE USA, INC. PORT HADLOCK, WA	
PH	PH		
CHECKED	APPROVED	DRAWING NO. D6014	REV. A SHEET 1 OF 1
DATE 05.03.18		TITLE SKIDTUBE MATERIAL	SCALE 1:1

A	05.03.18	NEW ISSUE

RELEASED
05.08.09

SPECIFICATION CONTROL DRAWING



NOTES

1) D6014–XXX SKIDTUBE
LENGTH

WHERE XXX IS LENGTH IN INCHES
EG. 64" LONG TUBE: D6014–064

2) MATERIAL: 3.750 OD x 0.375 WALL 7075–T73/T73510/T73511 PER QQ–A–200/11
SEAMLESS ALUMINUM TUBE.
MINIMUM ULTIMATE TENSILE STRENGTH = 68 ksi
MINIMUM YIELD TENSILE STRENGTH = 57 ksi

3) TOLERANCES ARE PER ASTM B210 AS FOLLOWS:
O.D.: ± 0.008 MEAN (±0.016 INCLUDING OVALITY)
WALL: ±0.015 MEAN (±0.038 INCLUDING ECCENTRICITY)
LENGTH: XXX +0.188/–0.000
STRAIGHTNESS: 0.010" DEVIATION / 12" LENGTH

4) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.

5) CHEMICAL CONVERSION COAT PER DART QSI 005 4.1

UNCONTROLLED COPY
SUBJECT TO AMENDMENT WITHOUT NOTICE
WORK ORDER NO. 86062
MCJ 12/06/20

SHOP COPY
RETURN TO ENGINEERING

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

Packinglist ALUnna AG

ALUnna ref. no.	46982/200
Customer PO.	Po. 17288
Date:	11.30.12

Boxmarking:

Dart Aerospace Po. 17288
D6014 - 090
Made in Germany Dest.: Hawkesbury Ont, Canada

We hereby declare that the wooden packing material are totally free from bark and apparently free from live plant pests

										Boxdimension								
Item no.	Box no.	OD (inch)	ID (inch)	Wall (inch)	Net Weight (lbs)	Tare lbs	Gross Weight	Pieces	lengths (ft)	Lengths (inch)	Width (inch)	height (inch)	Cast. / Heat No. Top	Pcs.	Cast. / Heat No. Middle	Pcs.	Cast. / Heat No. Bottom	Pcs.
200	1	3,750	3,000	0,375	732	237	969	20	8	151,575	22,441	22,441			8385/1302041	20		
200	2	3,750	3,000	0,375	732	236	968	20	8	151,575	22,441	22,441			8385/1302041	20		
200	3	3,750	3,000	0,375	730	252	982	20	8	151,575	22,441	22,441			8385/1302041	20		
200	4	3,750	3,000	0,375	730	251	981	20	8	151,575	22,441	22,441			8385/1302041	20		
200	5	3,750	3,000	0,375	472	255	726	13	8	151,575	22,441	22,441			8385/1302041	13		
																93		
					3395	1231	4626	93		6,254 m³								

Abnahmeprüfzeugnis 3.1 - DIN EN 10204:2005

Inspection Certificate 3.1 - DIN EN 10204:2005 / Certificat de Reception 3.1- DIN EN 10204:2005

Kunde: *Client:* Dart Aerospace Ltd.

1270 Aberdeen Street
K6A1K7 Hawkesbury, ON Canada

Zeugnisnummer: *Cert No.: / No. du certificat:* 1519/12

Bestellnummer: *Order No. / No. de commande* PO17288

Produkt: *Product / Produit:* Rohre nahtlos gepresst / *Tubes seamless extruded*

Auftrag: *Our Reference/Notre Reference:* 46982/200

Spezifikation: *Specification:* AMS - QQ - A - 200/11; Spezifikation Dart Aerospace D6014

Werkstoff: *Alloy/Alliage:* 7075

Zustand: *Temper/État* T 73511

Abmessung *Size / Dimension* 3,750 INCH x 3,000 INCH x 0,375 INCH x 90,000 INCH
D6014-090 3.750 X 0.375 X 90

Kennzeichnung *Marking/Marquage:* CERT.NO. 1519/12 - ALUnna - 7075 - T73511 - CAST NO. 8385 - AMS - QQ - A - 200/11 - 3.750" OD X 0.375" WALL - HEAT LOT NO. 1302041 - ALUNNA ORDER CONF.NO. 46982/200-1 - P.O. 17288

Lieferung *Delivered Material / Matérial délivre:* pcs. 93 lbs 3395

Country of Manufacture: Germany
Products are in accordance with applicable RoHS

1. Chemische Analyse — *Chemical Analysis / analyse chimique*

Other elements each max. 0,05 %, total %0,15

Charge/ Cast No.		Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Zr	Bi	Sn	Ni
	min.			1,2		2,1	0,18	5,1						
	max.	0,40	0,50	2,0	0,30	2,9	0,28	6,1	0,20					
8385/12		0,087	0,170	1,624	0,054	2,448	0,217	5,953	0,050	0,003	0,0318	0,0001	0,0017	0,0002

Hydrogen content: 0,09 **ccm/100 g Al** Elements without indication < 0,01 % **country of melt manufacturer: Germany**

2. Mechanische Eigenschaften — *Mechanical Properties / Valeurs Mécaniques*

Anforderungen Requirements	tensile (Rm) ksi	yield (Rp0,2) ksi	elongation 2" %	elongation A %	Hardness HB	Heat Lot No.
min.	68,0	57,0	8,0			
max.						
1	80,620	71,485	9,5			1302041
2	80,185	71,050	9,0			
3	80,330	71,195	9,5			
4	80,475	71,195	9,5			

17.1.13

RMS outside 25 max. 21,5 µ"

Ergebnis der Prüfungen: Es wird bestätigt, daß die Lieferung geprüft wurde und den Vereinbarungen bei der Bestellannahme entspricht

Test results: We confirm that the delivery has been tested and applies to the agreements made on receipt of the order

Resultats: Nous confirmons que la livraison a été controlée et correspond avec les conventions faites à la réception de la commande

TaschkeD

06.11.2012

Certified acc. DIN EN ISO 9001:2008 and DIN EN 9100:2003
valid until 2013-11-10
Cert.- Reg. No.: 001959 QM08; 001959 ASH

ALUnna

Abnahmebeauftragter

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO17288

Purchase Order Date 6/22/12
PO Print Date 6/22/12

Order From : VU-ALU001

ALUMINIUMWERK UNNA AG
630 3033 SOUTH PARKER RD
AURORA, CO 80014
USA

Contact Name		**Buyer**	Chantal Lavoie
Vendor Phone	303 755 5672	**Requisition Nbr**	
Vendor Fax	303 755 5936	**Tax Resale Nbr**	10127-2607
Vendor Account Nbr		**Terms**	Wire
		Currency	USD
		FOB	Destination-Collect

Ship To : DART AEROSPACE LTD 1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

FAXED

Line Nbr	Reference / Revision ID / Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	Req Qty/ Unit of Measure	Ship Method	Unit Price	Extended Price
1	D6013-047P	SKIDTUBE MAT'L	12/21/12 Yes	128.00 Each	Yours ppd	$134.0000	$17,152.00
		Special Inst:	EXTRUDE AS PER DWG D6013 REV. A B86064 MATERIAL: 7075-T73/T73510/T73511 (QQ-A-200/11) SEAMLESS ALUMINUM TUBE MIN ULTIMATE TENSILE STRENGH=66ksi MIN TENSILE YIELD STRENGH=56 ksi				
2	D6014-090P	ALUMINUM EXTRUSION	12/21/12 Yes	80.00 Each	Yours ppd	$642.0000	$51,360.00

Rec 93 6/13/13

86063

MATERIAL CERTIFICATION
REQ'D UPON DELIVERY

No substitution or deviation without consent.
Certificate of Conformity or Material Certification required - YES NO

Change Nbr: 1 **Change Date:** 6/22/12